| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/613,373 | DATTA ET AL. | |
| | Examiner | Art Unit | |
| | Bernard Lipman | 1713 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to *papers filed 20 April 2005*.

2. ☒ The allowed claim(s) is/are *31-50,52-60,62-72,74-82,84-115 and 120-124*.

3. ☐ The drawings filed on _____ are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 8/16/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

## EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Leandro Arechederra III, Esq. on 20 April 2005.

The application has been amended as follows:

Claims are amended to the following:

1-30. cancelled

31. (Previously Presented) A polymer blend comprising:

(a) polypropylene having at least about 90 wt% propylene-derived units; and

(b) a crystallizable polymer comprising:

(i) from 10 to 16 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units.

32. (Previously Presented) The polymer blend of claim 31, wherein the polypropylene of component (a) is isotactic.

33. (Previously Presented) The polymer blend of claim 32, wherein the crystallizable polymer of component (b) has isotactically crystallizable propylene sequences.

34. (Previously Presented) The polymer blend of claim 31, wherein the crystallizable polymer of component (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

35. (Previously Presented) The polymer blend of claim 31, wherein the crystallizable polymer of component (b) has a molecular weight distribution of from about 2.0 to about 3.2.

36. (Previously Presented) The polymer blend of claim 31, wherein the glass transition temperature of the crystallizable polymer of component (b) is retained in the polymer blend.

37. (Previously Presented) The polymer blend of claim 31, wherein the polypropylene of component (a) has a melting point of from about 115°C to about 170°C.

38. (Previously Presented) The polymer blend of claim 31, wherein the crystallizable polymer of component (b) has a melting point below that of the polypropylene of component (a).

39. (Previously Presented) The polymer blend of claim 31, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

40. (Previously Presented) A polymer blend comprising:

(a) isotactic polypropylene having at least about 90 wt% propylene-derived units; and

(b) a crystallizable polymer having a weight average molecular weight (Mw) by GPC of at least 248,900, said crystallizable polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units.

41. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) comprises from about 6 to about 18 wt % ethylene-derived units.

42. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) comprises from 10 to 16 wt% ethylene-derived units.

43. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) has isotactically crystallizable propylene sequences.

44. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) has a molecular weight distribution of from about 2.0 to about 3.2.

45. (Previously Presented) The polymer blend of claim 40, wherein the glass transition temperature of the crystallizable polymer of component (b) is retained in the polymer blend.

46. (Previously Presented) The polymer blend of claim 40, wherein the polypropylene of component (a) has a melting point of from about 115°C to about 170°C.

47. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) has a melting point below that of the polypropylene of component (a).

48. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

49. (Previously Presented) The polymer blend of claim 40, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 56 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

50. (Currently amended) A polymer blend comprising:

(a) polypropylene having at least about 90 wt% propylene-derived units; and

(b) a crystallizable polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units;

~~wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).~~ wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 56 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

51. (cancelled)

52. (Previously Presented) The polymer blend of claim 50, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 67 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

53. (Previously Presented) The polymer blend of claim 50, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 78 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

54. (Previously Presented) The polymer blend of claim 50, wherein the polypropylene of component (a) is isotactic.

55. (Previously Presented) The polymer blend of claim 54, wherein the crystallizable polymer of component (b) has isotactically crystallizable propylene sequences.

56. (Previously Presented) The polymer blend of claim 50, wherein the crystallizable polymer of component (b) comprises from about 6 to about 18 wt % ethylene-derived units.

57. (Previously Presented) The polymer blend of claim 50, wherein the crystallizable polymer of component (b) comprises from 10 to 16 wt% ethylene-derived units.

58. (Previously Presented) The polymer blend of claim 50, wherein the crystallizable polymer of component (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

59. (Previously Presented) The polymer blend of claim 50, wherein the glass transition temperature of the crystallizable polymer of component (b) is retained in the polymer blend.

60. (Currently amended) A polymer blend comprising:

(a) units derived from polypropylene having at least about 90 wt% propylene-derived units; and

(b) units derived from a crystallizable polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units;

~~wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).~~ wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 56 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

61. (cancelled)

62. (Previously Presented) The polymer blend of claim 60, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 67 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

63. (Previously Presented) The polymer blend of claim 60, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 78 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

64. (Previously Presented) The polymer blend of claim 60, wherein the polypropylene of component (a) is isotactic.

65. (Previously Presented) The polymer blend of claim 64, wherein the crystallizable polymer of component (b) has isotactically crystallizable propylene sequences.

66. (Previously Presented) The polymer blend of claim 60, wherein the crystallizable polymer of component (b) comprises from about 6 to about 18 wt % ethylene-derived units.

67. (Previously Presented) The polymer blend of claim 60, wherein the crystallizable polymer of component (b) comprises from 10 to 16 wt% ethylene-derived units.

68. (Previously Presented) The polymer blend of claim 60, wherein the crystallizable polymer of component (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

69. (Previously Presented) The polymer blend of claim 60, wherein the glass transition temperature of the crystallizable polymer of component (b) is retained in the polymer blend.

70. (Currently amended) A polymer blend comprising:

(a) polypropylene having at least about 90 wt% propylene-derived units; and

(b) a polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units;

wherein the polymer of component (b) is made using a transition metal-containing catalyst composition, wherein the transition metal is principally hafnium[[;]] and

wherein the polymer of component (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

71. (Previously Presented) The polymer blend of claim 70, wherein the polypropylene of component (a) is isotactic.

72. (Previously Presented) The polymer blend of claim 71, wherein the polymer of component (b) has isotactically crystallizable propylene sequences.

73. (cancelled)

74. (Previously Presented) The polymer blend of claim 70, wherein the glass transition temperature of the polymer of component (b) is retained in the polymer blend.

75. (Previously Presented) The polymer blend of claim 70, wherein the transition metal-containing catalyst composition is a metallocene.

76. (Previously Presented) The polymer blend of claim 70, wherein the polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the polymer of component (b) and the polypropylene of component (a).

77. (Previously Presented) The polymer blend of claim 70, wherein the polymer of component (b) is present in the blend in an amount of at least 56 wt%, based on the combined weight of the polymer of component (b) and the polypropylene of component (a).

78. (Previously Presented) The polymer blend of claim 70, wherein the polymer of component (b) comprises from about 6 to about 18 wt % ethylene-derived units.

79. (Previously Presented) The polymer blend of claim 70, wherein the polymer of component (b) comprises from 10 to 16 wt% ethylene-derived units.

80. (Currently amended) A polymer blend comprising:

(a) units derived from polypropylene having at least about 90 wt% propylene-derived units; and

(b) units derived from a polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units;

wherein the polymer of component (b) is made using a transition metal-containing catalyst composition, wherein the transition metal is principally hafnium[[;]] and

wherein the polymer of component (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

81. (Previously Presented) The polymer blend of claim 80, wherein the polypropylene of component (a) is isotactic.

82. (Previously Presented) The polymer blend of claim 81, wherein the polymer of component (b) has isotactically crystallizable propylene sequences.

83. (cancelled)

84. (Previously Presented) The polymer blend of claim 80, wherein the glass transition temperature of the polymer of component (b) is retained in the polymer blend.

85. (Previously Presented) The polymer blend of claim 80, wherein the transition metal-containing catalyst composition is a metallocene.

86. (Previously Presented) The polymer blend of claim 80, wherein the polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the polymer of component (b) and the polypropylene of component (a).

87. (Previously Presented) The polymer blend of claim 80, wherein the polymer of component (b) is present in the blend in an amount of at least 56 wt%, based on the combined weight of the polymer of component (b) and the polypropylene of component (a).

88. (Previously Presented) The polymer blend of claim 80, wherein the polymer of component (b) comprises from about 6 to about 18 wt % ethylene-derived units.

89. (Previously Presented) The polymer blend of claim 80, wherein the polymer of component (b) comprises from 10 to 16 wt% ethylene-derived units.

90. (Previously Presented) A polymer blend comprising:

(a) polypropylene having at least about 90 wt% propylene-derived units; and

(b) a crystallizable polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units;

wherein the glass transition temperature of the crystallizable polymer of component (b) is retained in the polymer composition.

91. (Previously Presented) The polymer blend of claim 90, wherein the polypropylene of component (a) is isotactic.

92. (Previously Presented) The polymer blend of claim 91, wherein the crystallizable polymer of component (b) has isotactically crystallizable propylene sequences.

93. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) comprises from about 6 to about 18 wt % ethylene-derived units.

94. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) comprises from 10 to 16 wt% ethylene-derived units.

95. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

96. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) has a molecular weight distribution of from about 2.0 to about 3.2.

97. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) has a melting point below that of the polypropylene of component (a).

98. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

99. (Previously Presented) The polymer blend of claim 90, wherein the crystallizable polymer of component (b) is present in the blend in an amount of at

least 56 wt%, based on the combined weight of the crystallizable polymer of component (b) and the polypropylene of component (a).

100. (Previously Presented) A polymer blend comprising:

(a) polypropylene having at least about 90 wt% propylene-derived units; and

(b) a polymer comprising:

(i) from about 4 to about 25 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units;

wherein the polymer blend will accept a strain of 250% and higher strain levels without failure.

101. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 250% without failure after being heated to 215°C and subsequently annealed.

102. (Previously Presented) The polymer blend of claim 100, wherein the polypropylene of component (a) is isotactic.

103. (Previously Presented) The polymer blend of claim 102, wherein the polymer (b) has isotactically crystallizable propylene sequences.

104. (Previously Presented) The polymer blend of claim 100, wherein the polymer of (b) has a weight average molecular weight (Mw) by GPC of at least 248,900.

105. (Previously Presented) The polymer blend of claim 100, wherein the glass transition temperature of the polymer of (b) is retained in the polymer blend.

106. (Previously Presented) The polymer blend of claim 100, wherein the polymer of (b) is present in the blend in an amount of at least 44 wt%, based on the combined weight of the polymer of (b) and the polypropylene of component (a).

107. (Previously Presented) The polymer blend of claim 100, wherein the polymer of (b) is present in the blend in an amount of at least 56 wt%, based on the combined weight of the polymer of (b) and the polypropylene of component (a).

108. (Previously Presented) The polymer blend of claim 100, wherein the polymer of (b) comprises from about 6 to about 18 wt % ethylene-derived units.

109. (Previously Presented) The polymer blend of claim 100, wherein the polymer of (b) comprises from 10 to 16 wt% ethylene-derived units.

110. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 300% and higher strain levels without failure.

111. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 400% and higher strain levels without failure.

112. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 500% and higher strain levels without failure.

113. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 600% and higher strain levels without failure.

114. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 700% and higher strain levels without failure.

115. (Previously Presented) The polymer blend of claim 100, wherein the polymer blend will accept a strain of 750% and higher strain levels without failure.

Claims 116-119 cancelled.

120. (Previously Presented) A polymer blend comprising:

(a) isotactic polypropylene having at least about 90 wt% propylene-derived units; and

(b) at least about 5 wt%, based on the combined weight of component (a) and component (b), of a polymer having isotactically crystallizable propylene sequences, and having a weight average molecular weight (Mw) by GPC of at least 248,900, the polymer comprising:

(i) from 10 to 16 wt% ethylene-derived units; and

(ii) at least 75 wt% propylene-derived units.

121. (Previously Presented) An article of manufacture comprising the blend composition of claim 31.

122. (Previously Presented) The article of claim 121, wherein the article is a film.

123. (Previously Presented) The article of claim 121, wherein the article is a fiber.

124. (Previously Presented) The article of claim 121, wherein the article is a molded object.

The following is an examiner's statement of reasons for allowance: Although the prior art teaches many blends of propylene polymers including isotactic polymers, Applicants have shown unexpected improvement for the specific blend of crystallizable polypropylene in specific proportions of monomers and polymers and which achieve strength to accept high strain levels or which are of a specified high molecular weight not taught in the prior art. Selection of the clamed parameters is neither taught nor rendered prima facie obvious from the teachings of the prior art as cited. Applicants' claims are, therefore, both novel and unobvious over the closest prior art as cited.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Lipman whose telephone number is 571-272-1105. The examiner can normally be reached on 8-5 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bernard Lipman
Primary Examiner
Art Unit 1713

BL/hs